Arizona Department of Education
Tom Horne, Superintendent of Public Instruction

Educational Services and Resources Division

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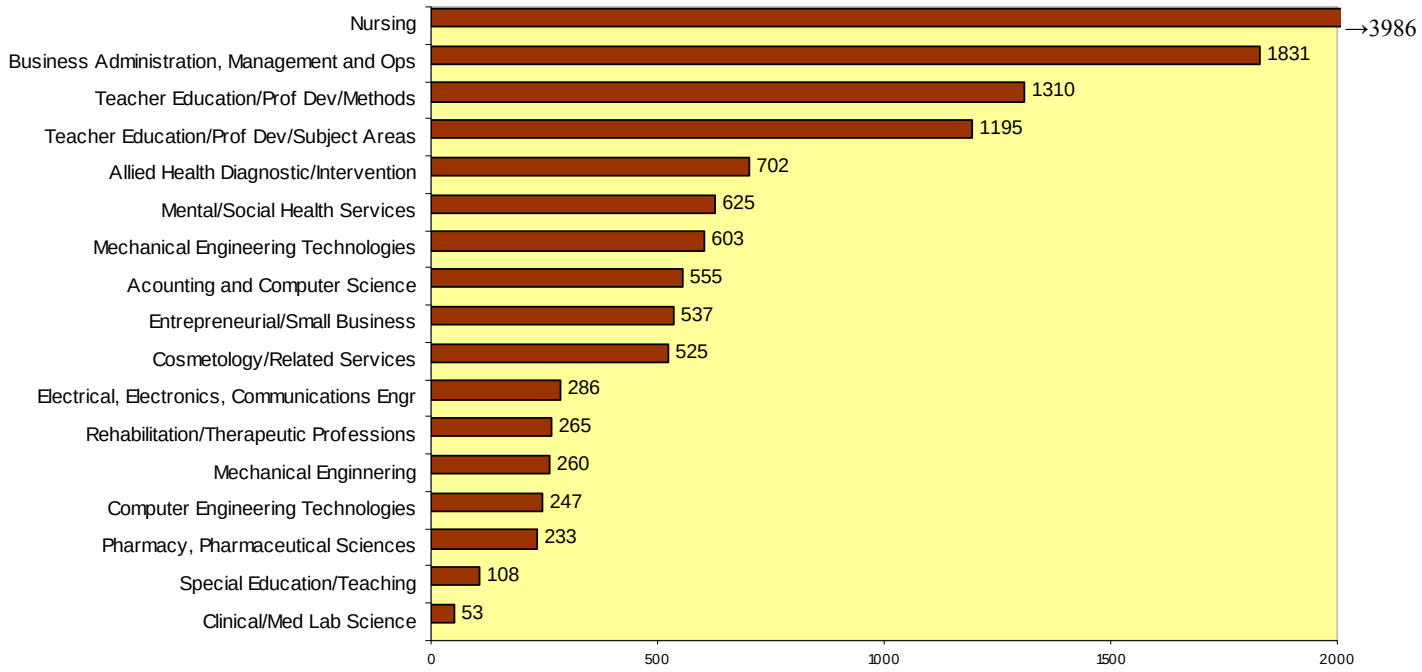
CTE FACTS

Vision Ensure a dynamic workforce by fully developing every student's career and academic potential.

Mission Prepare Arizona students for workforce success and continuous learning.

Projected Annual Shortages in Arizona Occupations, 2005-2025
(Annual Openings Minus Annual Degree Production)



Source: AZ Dept. of Economic Security; NCES, IPEDS Completions Surveys (2003-04 to 2005-06)

Snapshot: Nanoscience Technician

Nanoscience is the study and application of systems at the molecular and atomic level (roughly 1 to 100 nanometers). The line of work involves imaging, measuring, modeling and manipulating matter at this level. According to the US Dept of Labor *Occupational Outlook Handbook* two years of specialized training or an AAS degree is required. In May 2004 the median hourly earnings ranged from $28.46 for nuclear technicians to $14.29 for agricultural and food science technicians. Geological and petroleum technicians: $19.35. Health, environmental science and protection techs: $16.99. Biological technicians earned on the average $15.97 an hour. The National Science Foundation is forecasting one to two million trained nanoscience workers in the next decade. Regulations and workload require four to five technicians for every scientist or engineer.

To Quote: ***"All who have meditated on the art of governing mankind have been convinced that the fate of empires depends on the education of youth" - Aristotle***

Arizona's Economic Outlook[1]

►In 2003, the Greater Phoenix labor force totaled 1,712,300 – 95% total state employment and 92% total state non-farm employment.

►By 2020 the Hispanic population is projected to comprise 50% of the homegrown, entry-level labor pool in Phoenix and Tucson.

►By 2020, the total population of people age 60-plus will comprise 24% of the state's population.

►DES projects the state population to reach 7.3 million by 2020. More than 62% of the state's growth is anticipated to occur in Maricopa County alone.

Georgia is 15th State to Adopt College- and Career-Ready Graduation Requirements for All Students[2]

Under the new Graduation Rule for Georgia all students will be required to have 4 years of Mathematics (including content through and beyond Algebra II) and 4 years of Science. State Superintendent Kathy Cox: "Regardless of what students are going to do after high school, they must have a strong core of classes in Mathematics…..and Science." The new rule eliminates the two distinct College Prep and Technology/Career Diplomas and holds ALL students to the higher standards.

THE GREATER PHOENIX ECONOMIC COUNCIL HAS IDENTIFIED FIVE PRIORITY INDUSTRY CLUSTERS. THESE CLUSTERS WERE CHOSEN BASED ON EXISTING CONCENTRATION, POTENTIAL FOR EXPANSION AND ABILITY TO CREATE HIGH-WAGE JOBS:[1]

Aerospace and Aviation(Manufacturing)

►According to the Arizona Department of Transportation, aviation and aerospace is responsible for one of every five jobs in Arizona, directly and indirectly.

►From 1990 to 2000 the Aerospace Industry in Greater Phoenix grew from 45,859 to 54,745 jobs – representing 19% growth.

Bioscience

►In the past two years there has been a substantial need for new workers in the Arizona Bioscience sector, with most requiring a post secondary education. One of the many challenges Arizona faces in meeting this demand is the fact that most of its biology graduates **lack employable laboratory skills**.[3]

►In 2002, of the 6090 Bioscience positions identified in Arizona as high-demand/high growth over the next couple of years 21% were Medical Lab Tech positions and 25% were Manufacturing and Production positions.

►From 1990 to 2000 the Bioscience Industry in Greater Phoenix grew from 4,816 to 8,790 jobs – representing 83% growth.

Advanced Financial and Business Services

►An August 2003 report from DES indicated that there were 293,178 new jobs in this field in the year 2000. The average wage was $37,108 and 40% of the positions were below the mean wage. It is estimated that by 2010 27,700 new jobs will be added to this sector.

►From 1990 to 2000 the Advanced Financial and Business Services Industry in Greater Phoenix grew from 82,519 to 140,763 jobs – representing 71% growth.

High-Tech

►In 2002, high-tech firms employed 58 out of every 1,000 private sector workers and earned an average wage of $60,132.

►High-Tech is a target industry and priority for future area economic development planning in Avondale, Chandler, Gilber, Mesa, Peoria, Phoenix, Scottsdale, Surprise and Tempe. The goal is 20,500 new jobs by 2010 (established 2002).

►From 1990 to 2000 the High-Tech Industry in Greater Phoenix grew from 50,030 to 60,158 jobs – representing 20% growth.

Software

►The Software Industry is targeted as a priority for future area economic development planning in Avondale, Chandler, Gilbert, Mesa, Peoria and Tempe. With a goal of 32,500 new jobs by 2010 (established 2002).

►From 1990 to 2000 the Software Industry in Greater Phoenix grew from 9,796 to 19,304 jobs – representing a 197% growth.

….Oops…in last month's CTE Facts Newsletter the Automotive Technologies and Graphic Communications headings in the dialogue box were accidentally reversed. Sorry about that!

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[1]Maricopa Community Colleges, Center for Workforce Development. *A Force that Works*. www.dist.maricopa.edu/workforce
[2]http://www.achieve.org. October 2007.
[3]Batttelle Memorial Institute, 2002. *Arizona's Bioscience Roadmap.*

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